

**Notice of Allowability**

Application No.

10/076,905

Applicant(s)

RONAI, ZE'EV

Examiner

Stephen L. Rawlings, Ph.D.

Art Unit

1643

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 23 July 2007.
2. ☒ The allowed claim(s) is/are 1,4,8-13,15,20,21,23-29,32,35-43 and 48-55.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20070731.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

/Stephen L. Rawlings/  
Stephen L. Rawlings, Ph.D.  
Primary Examiner, Art Unit 1643

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Amy G. Klann, Ph.D. on July 31, 2007.
3. The application has been amended as follows:

In the claims:

The following set of claims has replaced the set of claims submitted as part of the response filed July 23, 2007:

Claim 1. (Currently amended) A method of inhibiting growth of a tumor cell, which method comprises inhibiting transcriptional activity of ATF2 by contacting the cell with an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 ~~consists of a peptide~~ is selected from the group consisting of:

- i. a peptide consisting of amino acid residues 1 to 115 of ATF-2;
- ii. a peptide consisting of amino acid residues 50 to 100 (~~Peptide II~~) of ATF-2;
- iii. a peptide consisting of amino acid residues 45 to 75 of ATF-2;
- iv. a peptide consisting of amino acid residues 45 to 100 of ATF-2; and
- v. a peptide consisting of amino acid residues 50 to 75 of ATF-2;

Claims 2 and 3. (Canceled).

Claim 4. (Previously Presented) A method of inhibiting growth of a tumor cell, which method comprises inhibiting transcriptional activity of ATF2 by contacting the cell with an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residue 50 to amino acid residue 75 of ATF2.

Claims 5-7. (Canceled).

Claim 8. (Original) The method of claim 1 wherein the tumor cell is a melanoma tumor cell.

Claim 9. (Original) The method of claim 1, wherein the tumor cell is a breast cancer tumor cell.

Claim 10. (Original) The method of claim 1, further comprising treating the tumor cell with a chemotherapeutic agent.

Claim 11. (Original) The method of claim 10, wherein the chemotherapeutic agent is selected from the group consisting of a p38 inhibitor, UCN-01, NCS, anisomycin, LY294002, PD98059, AG490, and SB203580.

Claim 12. (Previously Presented) The method of claim 1, further comprising treating the tumor cell with radiation, wherein the inhibitory N-terminal fragment of ATF2 sensitizes the tumor cell to the radiation.

Claim 13. (Currently Amended) A polypeptide ~~consisting of~~ comprising an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal

fragment of ATF2 consists of amino acid residues ~~from residue 50 to residue 100~~  
of ATF2.

Claim 14. (Canceled).

Claim 15. (Original) The polypeptide of claim 13, further comprising a  
translocation peptide sequence.

Claims 16-19. (Canceled).

Claim 20. (Original) A pharmaceutical composition comprising the polypeptide  
of claim 13 and a pharmaceutically acceptable carrier or excipient.

Claim 21. (Original) A pharmaceutical composition comprising the polypeptide  
of claim 15 and a pharmaceutically acceptable carrier or excipient.

Claim 22. (Canceled).

Claim 23. (Previously Presented) A method of treating a tumor in a subject,  
which method comprises administering a therapeutically effective amount of the  
pharmaceutical composition of claims 20 or 21, to the subject.

Claim 24. (Original) The method of claim 23 wherein the tumor is a melanoma  
tumor.

Claim 25. (Original) The method of claim 23, wherein the tumor is a breast  
cancer tumor.

Claim 26. (Original) The method of claim 23, further comprising treating the tumor with a chemotherapeutic agent.

Claim 27. (Original) The method of claim 26, wherein the chemotherapeutic agent is a p38 inhibitor.

Claim 28. (Original) The method of claim 26, wherein the chemotherapeutic agent is selected from the group consisting of UCN-01, NCS, anisomycin, LY294002, PD98059, AG490, and SB203580.

Claim 29. (Previously presented) The method of claim 23, further comprising treating the tumor with radiation, wherein the inhibitory N-terminal fragment of ATF2 sensitizes the tumor cell to killing by the radiation.

Claims 30-34. (Canceled).

Claim 35. (Previously presented) The method of claim 1, wherein contacting the cell with the inhibitory N-terminal fragment increases the activity of a c-jun family member in the cell, as compared to the activity of the c-jun family member in a tumor cell not contacted by the fragment.

Claim 36. (Previously presented) The method of claim 35, wherein the c-jun family member is jun kinase (JNK).

Claim 37. (Previously presented) The method of claim 35 wherein the tumor cell is a melanoma tumor cell.

Claim 38. (Previously presented) The method of claim 35, wherein the tumor cell is a breast cancer tumor cell.

Claim 39. (Previously presented) The method of claim 35, further comprising treating the tumor cell with a chemotherapeutic agent.

Claim 40. (Previously presented) The method of claim 39, wherein the chemotherapeutic agent is selected from the group consisting of a p38 inhibitor, UCN-01, NCS, anisomycin, LY294002, PD98059, AG490, and SB203580.

Claim 41. (Previously presented) The method of claim 40, wherein the chemotherapeutic agent is a p38 inhibitor.

Claim 42. (Previously presented) The method of claim 41, wherein the tumor cell is a late stage melanoma cell.

Claim 43. (Previously presented) The method of claim 35, further comprising treating the tumor cell with radiation.

Claims 44-47. (Canceled).

Claim 48. (Currently Amended) A method of inhibiting growth of a tumor cell, which method comprises inhibiting transcriptional activity of ATF2 by contacting the cell with an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid ~~residue~~ residues 1 to 115 of ATF2.

Claim 49. (Previously Presented) A method of inhibiting growth of a tumor cell, which method comprises inhibiting transcriptional activity of ATF2 by contacting the cell with an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues 50 to 100 of ATF2.

Claim 50. (Previously Presented) A method of inhibiting growth of a tumor cell, which method comprises inhibiting transcriptional activity of ATF2 by contacting the cell with an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues 45 to 75 of ATF2.

Claim 51. (Previously Presented) A method of inhibiting growth of a tumor cell, which method comprises inhibiting transcriptional activity of ATF2 by contacting the cell with an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues 45 to 100 of ATF2.

Claim 52. (Previously Presented) A polypeptide consisting of an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues from residue 1 to residue 115.

Claim 53. (Previously Presented) A polypeptide consisting of an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues from residue 45 to residue 75.

Claim 54. (Previously Presented) A polypeptide consisting of an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues from residue 45 to residue 100.

Claim 55. (Previously Presented) A polypeptide consisting of an inhibitory N-terminal fragment of ATF2, wherein the inhibitory N-terminal fragment of ATF2 consists of amino acid residues from residue 50 to residue 75.

#### ***Conclusion***

4. Claims 1, 4, 8-13, 15, 20, 21, 23-29, 32, 35-43, and 48-55 have been allowed.

5. Claims 1, 4, 8-13, 15, 20, 21, 23-29, 32, 35-43, and 48-55 have been renumbered as claims 1-35, respectively.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, Ph.D. can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen L. Rawlings/  
Stephen L. Rawlings, Ph.D.  
Primary Examiner  
Art Unit 1643

slr  
August 1, 2007